

## CLAIMS

1. A method of separating a reaction product generated by reaction of a first substance and a second substance, comprising the steps of:

- (a) mixing the first substance with a temperature-sensitive carrier residing in a liquid-phase state;
- (b) fixing an anchor region of the first substance to the temperature-sensitive carrier by converting the temperature-sensitive carrier to a solid-phase state by changing temperature of a reaction system;
- (c) generating a reaction product by reacting the second substance with a reaction region of the first substance that is fixed to the temperature-sensitive carrier;
- (d) removing impurities from the reaction system; and
- (e) releasing the anchor region of the reaction product from the temperature-sensitive carrier by converting the temperature-sensitive carrier to a liquid-phase state by changing temperature of the reaction system,

wherein the first substance has an anchor region capable of being fixed to the temperature-sensitive carrier and a reaction region that reacts with the second substance, and wherein the temperature-sensitive carrier is reversibly changed from a solid-phase state to a liquid-phase state by a change in temperature, which fixes the anchor region in the

solid-phase state and does not fix the anchor region in the liquid-phase state.

2. A method of separating a reaction product generated by reaction of a first substance and a second substance, comprising the steps of:

(a) reacting the first substance with the second substance to generate a reaction product;

(b) mixing the reaction product with a temperature-sensitive carrier residing in a liquid-phase state;

(c) fixing an anchor region of the reaction product to the temperature-sensitive carrier by converting the temperature-sensitive carrier to a solid-phase state by changing temperature of a reaction system;

(d) removing impurities from the reaction system; and

(e) releasing the anchor region of the reaction product from the temperature-sensitive carrier by converting the temperature-sensitive carrier to a liquid-phase state by changing temperature of the reaction system,

wherein the first substance has an anchor region capable of being fixed to the temperature-sensitive carrier and a reaction region that reacts with the second substance, and the anchor region is introduced into the reaction product through the reaction between the first and second substances, and wherein the temperature-sensitive carrier is reversibly changed from a solid-phase state to a liquid-phase state by a change in temperature, which fixes the anchor region in the

solid-phase state and does not fix the anchor region in the liquid-phase state.

3. A method of separating a complex generated by interaction of a first substance and a second substance, comprising the steps of:

(a) mixing the first substance with a temperature-sensitive carrier residing in a liquid-phase state;

(b) fixing an anchor region of the first substance to the temperature-sensitive carrier by converting the temperature-sensitive carrier to a solid-phase state by changing temperature of a reaction system;

(c) generating a complex by interacting the second substance with an interaction region of the first substance that is fixed to the temperature-sensitive carrier;

(d) removing impurities from the reaction system; and

(e) releasing the anchor region of the complex from the temperature-sensitive carrier by converting the temperature-sensitive carrier to a liquid-phase state by changing temperature of the reaction system,

wherein the first substance has an anchor region capable of being fixed to the temperature-sensitive carrier and an interaction region that can interact with the second substance, and

wherein the temperature-sensitive carrier is reversibly changed from a solid-phase state to a liquid-phase state by a change in temperature, which fixes the anchor region in the

solid-phase state and does not fix the anchor region in the liquid-phase state.

4. A method of separating a complex generated by interaction of a first substance and a second substance, comprising the steps of:

(a) interacting the first substance with the second substance to generate a complex;

(b) mixing the complex with a temperature-sensitive carrier residing in a liquid-phase state;

(c) fixing an anchor region of the complex to the temperature-sensitive carrier by converting the temperature-sensitive carrier to a solid-phase state by changing temperature of a reaction system;

(d) removing impurities from the reaction system; and

(e) releasing the anchor region of the complex from the temperature-sensitive carrier by converting the temperature-sensitive carrier to a liquid-phase state by changing temperature of the reaction system,

wherein the first substance has an anchor region capable of being fixed to the temperature-sensitive carrier and an interaction region that interacts with the second substance, the anchor region is introduced into the complex through the interaction between the first and second substances, and wherein the temperature-sensitive carrier is reversibly changed from a solid-phase state to a liquid-phase state by a change in temperature, which fixes the anchor region in the

solid-phase state and does not fix the anchor region in the liquid-phase state.